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## **Above and beyond superstition – western herbal medicine and the decriminalising of placebo**

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### **Biographical note**

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# **Above and beyond superstition – western herbal medicine and the decriminalising of placebo**

## **Abstract**

Does it work? This question lies at the very heart of the kinds of controversies that have surrounded complementary and alternative medicines (such as herbal medicine) in recent decades. In this paper, I argue that medical anthropology has played a pivotal and largely overlooked role in taking the sham out of the placebo effect with important implications for what it means to say a therapy or drug ‘works’. If pharmacologists and clinicians have corporeally located the concept of efficacy in terms of bio-availability, pharmacodynamics and pharmacokinetics, and herbalists in terms of a herbal revitalising of the body’s own *vis medicatrix naturae*, from the early 20<sup>th</sup> century onwards medical anthropologists (especially those who became interested in the ‘savage mind’) have built up an equally rigorous theory of symbolic efficacy in terms of narratives, symbols and a kind of cognitive homeostasis. It was precisely as a mediating link between the somatic and the symbolic that I suggest a decriminalised placebo effect (as opposed to suggestion) could emerge in the middle of the 20<sup>th</sup> century. Taking the example of St. John’s Wort, I go on to show how notions of symbolic efficacy, spill-over placebo efficacy and bio-efficacy co-circulate in recent attempts by herbalists, clinicians and pharmacologists to address the question of whether or not this herbal remedy ‘works’ in the treatment of depression.

## **Key words**

Herbal medicine, symbolic efficacy, placebo effect, medical anthropology, clinical trials, St. John’s Wort

## **Word count**

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## **Introduction**

There is an interesting coincidence in the history of blind assessment in medicine and that of medical anthropology in the early 20<sup>th</sup> century work of experimental psychologist and medical anthropologist William H.R. Rivers. While at Cambridge University, Rivers carried out pioneer work in the use of “control mixtures which have usually been wholly indistinguishable from those containing active substances” (cited in Kaptchuk 1998a: 419) when testing psychological stimulants, and while doing fieldwork in Melanesia and New Guinea he came to describe “the part played by suggestion in the production and cure of diseases among such people as the Papuans and Melanesians” (Rivers 1924: 50). Rivers was writing at a crucial turning point on both fronts.

On the one hand, the recently formalised medical profession in Europe and America was coming to terms with what historian Anne Harrington (2006) has described as the “secret shame” of orthodox physicians who continued to actively prescribe inert bread pills (especially when faced with ‘problematic’ patients) while at the same time accusing quacks of puffing their worthless waters and tonics as ‘miracle cures’. There was something just not right about insisting on a rational, scientific medicine which identified biological causes and pathways for diseases as well as isolated chemical compounds with which to redress these pathologies, while at the same time using placebos “by the bushel” as Richard Cabot wrote in 1903 (cited in Harrington 2006: 186). Rivers was experimenting with psychopharmacological as compared to inert control substances at a time where the clinically observed positive effect that placebos could have on patients was explained in terms of the suggestibility of patients who were ‘tricked’ into thinking they were getting better when they in fact were not.

On the other hand, Rivers would play his part in challenging the ‘conventional’ anthropological thinking of the day which was still largely organised by evolutionary logics. Nineteenth century anthropological classifications of peoples and races into categories of savages, barbarians and civilised had assumed a linear development of languages, religions and customs from simple to complex, and as a result the first anthropological reports of the “primitive medicine” and “witchdoctoring” of the ‘savages’ were mostly explained in terms of a child-like simplicity and immaturity which made them susceptible to irrational beliefs. Indeed, 19<sup>th</sup> century civilisation taxonomies were dominated by metaphors of a child maturing into an adult (Wahlberg 2003; 2007a). But with the advent of Malinowskian cultural immersion in the early part of the 20<sup>th</sup> century, of which Rivers was

certainly a proponent, this evolutionary account of immature peoples and primitive medicine would undergo a drastic recasting.

In this article, I show how medical anthropology has played a key role in the development of concepts that inform, in very practical ways, contemporary efforts to determine whether or not a treatment or medicine ‘works’, especially via clinical trials. Rather than seeing anthropological concepts of efficacy as somehow incommensurable or in contrast to a biomedical efficacy (cf. Barry 2006; Kleinman 1980; Sharma 1992), I show how different concepts of efficacy can co-circulate in attempts to demonstrate efficacy, using herbal medicine as an example. I start by showing how early 20<sup>th</sup> century medical anthropologists came to be interested in the therapeutic role and use of symbols in ‘primitive’ healing rituals through an archaeological reading of classic medical anthropology texts by Rivers, Evans-Pritchard, Levi-Strauss and others (cf. Canguilhem 1989). In particular, I suggest that the development of a theory of symbolic efficacy has contributed to a decriminalisation of the placebo effect, by which I mean a kind of epistemological legitimisation or rectification (Bachelard 1984; 2001) of an effect that for long was considered to be the result of trickery or even outright fraud on unknowing and/or susceptible recipients.

I then go on to show how, in the mid-20<sup>th</sup> century, the concept of the ‘placebo effect’ came to mediate symbolic and somatic concepts of therapeutic efficacy as a kind of spill-over effect measurable “at the end organs”. While still highly controversial, the placebo effect has become such an acknowledged part of almost any treatment intervention (not to mention a legitimate and ‘real’ object of scientific scrutiny) that ‘proving’ that a treatment or medicine ‘works’ today increasingly requires demonstrating an efficacy that is ‘above and beyond placebo’.

In the final part of the article, I show how symbolic, placebo and somatic concepts of efficacy have informed recent efforts by herbalists, clinicians and pharmacologists alike to demonstrate that the herbal remedy St. John’s Wort is not a superstitious “old wives’ tale” but rather has an efficacy that is ‘above and beyond placebo’ in the treatment of depression. Importantly, however, while the randomised controlled trial works to separate out ‘placebo’ and other ‘non-specific’ effects as a means to quantify ‘true drug’ effect, herbalists actively work to keep these different forms of efficacy together in what is described as a “holistic” approach to healing in their practice.

## **Leechcraft and the symbolic therapeutics of coping**

Like Bronislaw Malinowski, Rivers became convinced during field visits to Melanesia that Melanesians were in fact highly rational and sophisticated people, a point he would make emphatically in *Medicine, Magic, Religion*: “the concepts underlying the magical procedure of savage man have not the vague and indefinite character often assigned to them, but form clear and relatively concrete motives for the complex procedures of the sorcerer and leech” and conversely, “the practices of these peoples in relation to disease are not a medley of disconnected and meaningless customs, but are inspired by definite ideas concerning the causation of disease” (1924: 52, 51). As a consequence, Rivers consistently used the term *leechcraft* in place of the more evolutionarily-loaded *primitive medicine* when referring to the healing arts of the so-called “peoples of rude culture”. A few decades later, Erwin Ackerknecht went on to summarise this epistemological break by arguing that:

[in the past,] students either decided that certain primitives have no medicine at all, because their medicine fits so badly into our pattern of medicine, or they regarded it only as a mere immature or degenerate variety of our medicine... [But,] primitive medicine is not a queer collection of errors and superstitions, but a number of living units in living cultural patterns, quite able to function through the centuries in spite of their fundamental differences from our own pattern” (Ackerknecht 1971: 120).

Even Edward Evans-Pritchard, who suggested in his 1937 ethnography of *Witchcraft, Oracles and Magic Among the Azande* of southern Sudan that it could well be that “the majority of [Zande witchdoctors] are quacks”, did not account for their continuing prevalence by suggesting an irrationality or simplicity on the part of the Azande<sup>1</sup>:

Azande do not consider what their world would be like without witch-doctors any more than we consider what it would be like without physicians. Since there is witchcraft there are naturally witch-doctors... All their beliefs hang together, and were a Zande to give up faith in witch-doctorhood he would have to surrender equally his belief in witchcraft and oracles... In this web of belief every strand depends upon every other strand, and a Zande cannot get out of its meshes because this is the only world he knows. The web is not an external structure in which he is enclosed. It is the texture of his thought and he cannot think that his thought is wrong. Nevertheless, his beliefs are not absolutely set but are variable and fluctuating to allow for different situations and to permit empirical observation and even doubts. (Evans-Pritchard 1937: 185, 194-5)

The increasing number of ethnographically detailed accounts of the medical practices of ‘primitive peoples’ that emerged during the first half of the 20<sup>th</sup> century were more or less

unified in their conclusion that “in the department of his activity in which he endeavours to cope with disease, savage man is no illogical or prelogical creature, ... his actions are guided by reasoning as definite as that we can claim for our own medical practices” (Rivers 1924: 53). But this still left anthropologists with the question of just how the leechcraft of the savages could ‘work’, as this, Ackerknecht argued, it quite dramatically did: “There are too many well testified cases in primitive tribes where magic kills by suggestion for the fact to be doubted. Why should the power that kills not be able to heal?” (Ackerknecht 1971: 130). It was common knowledge at the time that herbs and plants have been an important source of medicines for peoples and cultures throughout the world since time immemorial. But Evans-Pritchard for one was definitely not convinced that the efficacy of Azande healing practices could be attributed to the pharmacological properties of the plants used by their witchdoctors and healers:

The assumption that Azande would hardly have continued to use drugs for centuries if they possessed no curative properties... is unhappily contradicted by the history of European medicine and by the history of magic everywhere and at all times. The enormous number of drugs which Azande employ and the variety of herbal products they bring to bear on a single disease at once demonstrate their lack of therapeutic value when we reflect what scientific pharmacology really implies. (Evans-Pritchard 1937: 494)

Not everyone was in full agreement with Evans-Pritchard on this point however, as, for example, Ackerknecht argued that “an enormous number of effective drugs is known to the primitives... [f]rom twenty-five to fifty percent of their pharmacopoeia is often found to be objectively active” (1971: 128). Nevertheless, there was broad agreement in anthropological debates that the efficacy of leechcraft could not be accounted for by the medicinal plants used in healing practices alone.

Instead, medical anthropologists began building up a theory of symbolic efficacy to account for the healing effects of leechcraft. The concept of ‘coping’ has been and indeed remains central to medical anthropology (which takes human subjectivity as its object), as central as the concept of ‘regulation’ has been to biomedicine (which takes the anatomical body as its object) (Canguilhem 1988). It was Rivers who initially suggested that the leechcraft of ‘savages’ should be understood in terms of their “endeavours to cope with disease”, and that among the Papuans and Melanesians:

we can see clearly that most of the processes by which disease was thought to be produced and was treated are such as would act through the mind. The manifold lines of treatment by which human or spiritual agents were induced to

cure disease acted, if they were successful, through the agency of faith and suggestion. (Rivers 1924: 122)

Importantly, he did not view these processes as necessarily fraudulent, but argued instead that “there is reason to believe that [the sorcerer or priest] is not wholly a deceiver, but in some measure shares the general belief in his own powers... I believe that, in many cases, it is the same among ourselves, and that a study of our own quacks and charlatans, with that amount of care which we devote to the Australian or the Melanesian leech, would show us the impostor far less than is usually supposed” (Rivers 1924: 50-1).

So how did faith and suggestion work in the leeches’ endeavours to assist their patients to cope with their diseases, and thereby to elicit cures? This was a central question for Ackerknecht, Lévi-Strauss and Turner. From their work we can discern some of the forms of the many different pathways that are to this day seen to enable symbolic efficacy – that is to say, its mechanisms of action. “The primitive treatment centres around symbolical actions, for the symbol is of enormous importance in primitive thought,” wrote Ackerknecht in a 1942 paper on the ‘Problems of primitive medicine’ (1971: 123). The primary function of the symbol, he and other anthropologists argued, was to make visible, concrete and material otherwise invisible forces, thereby making them amenable to manipulation and ultimately enabling cure. The *primitive symbol* is “concrete and material, and permits action by mystical participation upon invisible forces which it cannot attain otherwise”, *primitive therapy* “is partly a process of making hidden and secret things visible and thereby accessible, if they are harmful, to redressive and remedial action” and the *primitive cure* consists “in making explicit a situation originally existing on the emotional level and in rendering acceptable to the mind pains which the body refuses to tolerate” (Ackerknecht 1971: 123-4; Lévi-Strauss 1968: 190; Turner 1967: 302-3).

This active use of symbols to make explicit and concrete otherwise invisible, spiritual or emotional forces is the key to symbolic efficacy. The first, and most important, mechanism of action of symbolic efficacy relates to the concept of coping. Disease, it is often argued, is a disruptive life event, one that engenders considerable disorder, chaos and anxiety in the patient. The primary function of the witchdoctor, priest or sorcerer’s healing ritual, according to these medical anthropologists, was therefore to restore cognitive order – a kind of “bloodless, gutless” homeostasis to borrow Wilson’s (2004: 42) phrase – and thereby to calm the patient:

The medicine man is a *soul doctor* and his fellow primitive whom we know as an emotionalist needs him badly... His rigid system, which ignores doubt, dispels fear, restores confidence and inspires hope. And as Charcot said: the best inspirer of hope is the best physician. (Ackerknecht 1971: 130, my emphasis)

Highlighting that a sorcerer's healing ritual would often consist not only of medicinal herbs or other material implements but also a myth or narrative to go along with them, Claude Lévi-Strauss argued that "the technique of the narrative aims at recreating a real experience in which the myth merely shifts the protagonists" and therefore that "the efficacy of the cure would be jeopardized if, even before any results were to be expected, it failed to offer the sick woman a resolution, that is, a situation wherein all protagonists have resumed their places and returned to an order which is no longer threatened" (Lévi-Strauss 1968: 194, 197).

It is this process of restoring order that has been singled out as the key to coping in an anthropological sense and therefore to the mechanism of action of symbolic efficacy. Victor Turner, who meticulously documented the symbols used in various rituals by the Ndembu of Zambia in *Forest of Symbols*, argues that "out of the randomness and incoherence of the environment, the *chimbuki* [ritual specialist] selects certain items and arrays them in a coherent structure in accordance with his sensitivity to Ndembu evaluations and symbolism and in accordance with his intention of curing a specific, culturally defined disease" (Turner 1967: 351). And in a classic analysis of a Cuna woman's birth ritual in a chapter on 'The effectiveness of symbols', Lévi-Strauss concludes:

The tutelary spirits and malevolent spirits, the supernatural monsters and magical animals, are all part of a coherent system on which the native conception of the universe is founded. The sick woman accepts these mythical beings or, more accurately, she has never questioned their existence. What she does not accept are the incoherent and arbitrary pains, which are an alien element in her system but which the shaman, calling upon myth, will re-integrate within a whole where everything is meaningful. (Lévi-Strauss 1968: 197)

### **Taking the sham out of placebo**

Now, as already pointed out, this pioneer ethnographic work was taking place at the same time as the placebo effect was becoming the object of systematised scientific investigation. In the preceding centuries, during what is sometimes referred to as the 'golden age of quackery' (see Holbrook 1959; Porter 1989; Wahlberg 2007b) where bad medicine was

particularly associated with hucksters and cranks accused of deliberately pretending spectacular claims for their snake oils and miracle cures, Kaptchuk (1998a) has shown how the blind assessment of a treatment emerged as a tool specifically designed for detecting fraud. These quacks were out to scam the public and by way of ingeniously designed blind trials, their game could be exposed. The appointment of a royal commission by King Louis XVI of France in 1784 to investigate the effects of animal magnetism claimed by Franz Anton Mesmer and his followers is often cited as a significant moment in the emergence of a new way to determine the purported efficacy of a treatment or remedy – that is, by comparing its effects with that of a sham treatment made practicable by blind-folding prospective treatment recipients and observing how they react to both verum and sham treatments (see Darnton 1968; Harrington 1997; 2006; Kaptchuk 1998a). Importantly, in the final report of King Louis XVI's royal commission, who had carried out a series of trials on a number of blind-folded subjects, Benjamin Franklin and his team of scientists concluded that any “sensations, real or pretended, were determined by the imagination” (cited in Darnton 1968: 62-5). Ever since, a role for the imagination, mind and later brain in generating therapeutic cures for what came to be considered essentially biophysical diseases, has been scientifically posited and vigorously studied.

Even as a number of psychologists picked up on the role of “suggestion” in the eliciting of therapeutic effects towards the end of the 19<sup>th</sup> century, the contention remained that whatever the observed effects in patients these were deceptions, ‘tricks of the mind’, or even cases of conscious fraud on the part of a practitioner. It would not be until the early 20<sup>th</sup> century that this vilification of the imagination as a deceiving healing agent would begin its gradual transformation into a recognised and acknowledged (if frustratingly so) therapeutic agent of almost all forms of treatment and medicine (Harrington 2006), eventually canonised as the ‘placebo effect’ in 1950 when pharmacologist Stewart Wolf of Cornell University Medical College concluded that “‘placebo effects’ which modify the pharmacologic action of drugs or endow inert agents with potency are *not* imaginary, but may be associated with measurable changes at the end organs” (Wolf 1950: 108, my emphasis). While historical studies of the placebo effect have done well to highlight the important role played by especially psychologists, neurologists and pharmacologists in the post-WWII emergence of the placebo effect as a legitimate object of scientific inquiry, the pivotal role of early medical anthropology in the conceptual recasting that has taken the sham out of placebo has been mostly overlooked.<sup>2</sup>

For many medical anthropologists, the symbolic restorations of cognitive order that they accounted for in their medical ethnographies did not necessarily remain in a bloodless, gutless domain of cognitive frameworks and lifeworlds. Instead, they also saw them as inciters of what we might think of as a 'spill-over' placebo effect. Notwithstanding the crucial role they attributed to symbolic restorations of order in healing processes in themselves, Ackerknecht, Levi-Strauss and Turner were also fully aware that a question remained as to whether this effect that they were describing was 'merely' a sophisticated account of what had long been known as "suggestion". And there were two particular ways in which this question was tackled. First of all, they argued that the symbolic component of healing was by no means limited to the experiences of 'primitive peoples'. Both Ackerknecht and Turner underlined that "suggestion is one of the major implements of [both] the shaman and of the M.D.", "it must be admitted that medicine in our culture relies to a certain extent on suggestion..., the general practitioner in British rural areas administered 'nasty' medicines, partly on account of their curative properties and partly to satisfy the patient that they were 'strong' enough to 'kill' the ailment" (Ackerknecht 1971: 161; Turner 1967: 315). Although, all things equal, both agreed with Rivers that there nevertheless were differences in the use of suggestion between primitive and modern medicine, but these were "only differences in degree" (Ackerknecht 1971: 161). Nevertheless, a question remained over whether effected cures remained in a subjective realm of coping or whether they also spilled over into a corporeal realm of biological regulation, much as psychosomatic disorders were seen to move from the psychogenic (incited by anxiety, stress, fear or trauma) to the somatic (manifest as heart irregularities, digestive disorders, asthma or skin conditions) (see Greco 1998; Wilson 2004).

Turner argues that, in any case, "the distinction between 'medicine' as 'drug' and as 'ritual symbol' is a very fine one, and it is not always possible to make it clearly. All things are felt to be charged with powers of various kinds, and it is the job both of the herbalist and of the ritual specialist to manipulate these for the benefit of society" (1967: 335). Nevertheless, in reflecting over how Ndembu rituals had withstood the test of time, he concludes that in all likelihood there is not too much in the way of physiological cure that can be attributed directly to Ndembu healing rituals, rather, any physiological effects are attributable to spill-over placebo efficacy:

One reason for their persistence lies, no doubt, in the very fact that they are part of a religious system which itself constitutes an explanation of the universe and guarantees norms and values on which orderly social

arrangements rest... Another more practical reason would be that many diseases are self-curing; in the course of time, regardless of treatment they are given, many people recover from illness, but the recovery is attributed to the treatment. Then again, psychological considerations must play a part in the case of mild psychosomatic conditions and in milder cases of somatic illness. Such considerations would include the authoritative air of the doctor-herbalist, the purposive structure of the procedure, the 'shock treatment' aspect mentioned above, and the sense that something traditional is being done about a known and named condition. Here we have an instance of the well-known placebo effect, where medicine is given to humour rather than to cure the patient, but where improvement in health nevertheless results. (Turner 1967: 356)

Lévi-Strauss, on the other hand, is more adamant in arguing that "this term [psychological cure] will remain meaningless unless we can explain how specific psychological representations are invoked to combat equally specific physiological disturbances", and that a healing ritual "constitutes a *psychological manipulation* of the sick organ, and it is precisely from this manipulation that a cure is expected" (1968: 191, 192), which suggests a definite physiological 'spill-over' effect. In more detailed terms:

The shaman provides the sick woman with a *language*, by means of which unexpressed, and otherwise inexpressible, psychic states can be immediately expressed. And it is the transition to this verbal expression – at the same time making it possible to undergo in an ordered and intelligible form a real experience that would otherwise be chaotic and inexpressible – which induces the *release* of the physiological process, that is, the reorganization, in a favourable direction, of the process to which the sick woman is subjected. (Lévi-Strauss 1968: 198, my emphasis)

In other words, just as psychogenic fear, trauma, anxiety or stress have been claimed to be generative of somatic disorders or even of 'voodoo death' via some kind of intermediate pathways, medical anthropologists have persistently argued that psychogenically induced hope, order, expectation or familiarity can be generative of somatic cure via similar, albeit reversed, intermediate pathways of psychosomatic mediation.

To sum up, we should not overlook the important role that medical anthropology has had in positing a very real and concrete symbolic efficacy for all therapeutic encounters, irrespective of whether they have been classed as primitive, traditional, modern or alternative. Moreover, the anthropological recasting of an irrational, simple or superstitious 'primitive medicine' into a very rational and complex 'leechcraft' has also played a key role in the relatively recent decriminalisation of placebo, by arguing for the possibility of a physiologically measurable spill-over placebo efficacy released by a concrete symbolic efficacy. If this symbolic efficacy is as real and concrete as they claim, then no longer is

the resulting placebo efficacy *necessarily* a case of deceptive suggestion or conscious fraud. Rather, according to medical anthropologists, the redressive restoration of cognitive order and hope in the face of the incoherence, randomness and chaos of disease – the mechanism of action of coping understood as a kind of symbolic homeostasis facilitated by “symbolic pathway[s] of words, feelings, values, expectations, beliefs, and the like” (Kleinman 1973: 210) – is a crucial, rational and material part of any healing process. To be sure, an unfinished and lively debate remains over the extent to which, as well as over the specific ways in which, this symbolic efficacy spills over via intermediate pathways into a physiological realm of bio-efficacy. Is it via a conditioned response based on cultural familiarity, a logic of expectation that releases endogenous pharmaceuticals (such as the by now infamous endorphins), a hope-generated immunological boost that assists self-healing, or does it indeed remain in the subjective realm as an abreaction-aided restoration of cognitive order which enhances the well-being of a patient?<sup>3</sup>

### **The symbolic effectiveness of herbal medicine**

Now, as has been shown by a number of scholars, the post-WWII period has seen the rise of what is currently known as ‘evidence-based medicine’ (EBM) which has for the most part championed the randomised controlled trial as its most important tool for evaluating the effectiveness of a particular drug or therapy (Goodman 2003; Marks 1997; Timmermans and Berg 2003). While these studies have demonstrated the social, economic and ethical contexts in which EBM has emerged, the rationale for these developments can also be discerned in the conceptualisations of efficacy that I have described above. For, if there is a contention that pretty much any kind of treatment (‘even’ completely inert placebo treatments) will have some kind of positive effect on a patient, then it is no longer sufficient to be able to demonstrate that a new treatment ‘works’ when measured against certain treatment outcomes. Instead, to provide evidence of effectiveness, a new drug or therapy has to be shown to have an effect that is ‘above and beyond placebo’ which in turn calls for specific clinical testing techniques. Moreover, there is a clear assumption in the logic of clinical trials that the ‘specific effects’ of a drug (which it usually is) relate to its biological effects, i.e. the beneficial therapeutic effect that results when a drug is ingested, thereby becoming pharmacokinetically/–dynamically bio-available and affecting the physiological workings of the body (Lakoff 2005; 2007).

The move towards clinical testing with the help of randomised controlled trials can certainly be identified in the recent history of what is often referred to as ‘Western herbal medicine’

(as opposed to Chinese, Ayurvedic, Tibetan or indeed any other non-European or American form of herbal medicine) (Griggs 1997; Lewith, et al. 2002; Mills and Bone 1999). Yet, however much focus, not to mention resources, have been directed towards determining the bio-efficacy of herbal medicines in recent years, this shift has definitely not come at the cost of other forms of efficacy. In the United Kingdom, for example, indigenous herbal medicine is described by herbalists *both* in terms of a particular (or alternative) ‘way of thinking’ about health and healing (often described as “holistic”), and in terms of physiological effects in “certain organs or systems of the body” during the course of a treatment (NIMH 2004). That is to say, the efficacy of herbal medicines is accounted for through both symbolic and physiological mechanisms of action.

On the symbolic side, as put by herbalist Simon Mills in his *Essential Book of Herbal Medicine*, herbal medicine is about offering patients “imagery and models of their illness that they can relate to”, as well as forming a “common language allowing patient and physician to understand each other better” (1993: 21, 32). And it is exactly here that herbal medicine is seen to have an advantage over modern medicine which herbalist Michael McIntyre suggests has “lost sight of the human beings who are ill, and of the subtle emotional, mental and physical factors that can determine whether a person is ill” (McIntyre 1988: 31). Hence, the patient’s active participation in the healing process is highlighted as crucial by herbalists. Holistic herbal healing is far from being only about taking herbal remedies for different symptoms or conditions, rather the healing process involves engaging patients and assisting them to understand that their lifestyle – including aspects of diet, stress, exercise, etc. – is the key to active maintenance of balance, harmony and thereby health.

Yet, to suggest that the efficacy of herbal medicine in Britain is confined to a symbolic realm, that restores cognitive order to a patient by allowing him or her to understand the underlying cause of imbalances and disharmonies, would be to neglect a central tenet of western herbal medicine, i.e. helping the *body* to help itself by strengthening its own *vis medicatrix naturae* or innate self-healing abilities. As put by Mills:

the modern herbalist does not claim descent from the shaman... It is, of course, always the case that the therapist powerfully influences the therapy, but as in other crafts it is the nature of the material, the character of the remedies, that is the determining factor (1993: 150).

At a consultation, a herbalist will seek to identify the “underlying cause of the problem... which is [what is] treated, rather than the symptoms alone [as] treatment or suppression of symptoms will not rid the body of the disease itself” (NIMH 2004). To do so “the Herbalist will take notes on the patient’s medical history and begin to build a picture of the person as a whole being” (ibid.). Only then will treatment be recommended and, as described by the National Institute of Medical Herbalists (NIMH), herbal remedies are themselves ‘merely’:

used to ‘feed’ and restore to health those parts which have become weakened... Treatment may [also] include advice about diet and lifestyle as well as the herbal medicine. As the body is strengthened so is its power and ability to fight off disease and when balance and harmony are restored, health will be regained. [Hence], healing is a matter of teamwork with patient, practitioner and the prescribed treatment all working together to restore the body to health. (ibid.)

In other words, the role of the Western herbalist is to facilitate the restoration of any imbalances or disharmonies (often seen as resulting from disobliging lifestyles), by, on the hand providing patients with “imagery and models of their illness that they can relate to” and on the other “herbs that can re-establish or revive the harmonious flow of [a] universal life force, without which we die” (McIntyre 1988: 42).

Notwithstanding the crucial emphasis of herbalists on lifestyle and patient understanding in herbal healing encounters, as already mentioned, in recent years, a growing body of research throughout the world has begun documenting the extent of the “independent activity of the herbs themselves” through clinical trials, phytochemical elucidation and pharmacological laboratory research (Mills and Bone 1999: xviii). This aspect of western herbal medicine is increasingly referred to as ‘rational phytotherapy’, or the science of herbal medicine. Western herbalists have in recent decades been slated “for clinging to outworn historical authority and for not assessing their drugs in terms of today’s knowledge” (Department of Health cited in British Medical Association. Board of Science and Education. 1986: 110), and what many see as an increasing rationalisation of western herbal medicine could well be seen as a concrete response to these kinds of charges. The number of herbal medicines being clinically tested for efficacy is growing by the day, something not unrelated to what herbalist Andrew Chevallier has described as “justified... scepticism about claims for new ‘wonder’ treatments” (1999: 36).

### **St. John’s Wort and the psychometrics of depression**

One such herbal remedy is St. John's Wort (*hypericum perforatum*). Records of its medicinal uses date back to Theophrastus (373-287 BC), Pliny (23-79 AD) and Dioscorides (40-90 AD) who recommended it for burns, snakebites and as a diuretic. But it was not until the 16<sup>th</sup> century that the first references to its current use as an “arnica for the nerves” can be found, when Paracelsus (1493-1541) recommended it for not just wounds and parasites, but also for what he called ‘phantasmata’ (see Müller 2005). A century later, in 1630, Italian iatrochemist Angelo Sala reported that:

St. John's Wort has a curious, excellent reputation for the treatment of illnesses of the imagination... and for the treatment of melancholia, anxiety and disturbances of understanding... With the same power it works against the symptoms caused by witches (cited in Rosenthal 1998: 197).

During the ‘golden age of quackery’, the effectiveness of St. John's Wort in treating “illnesses of the imagination” was accounted for in a few different ways. Ascribing to astrological explanations as well as to the doctrine of signatures, Nicholas Culpeper classed the very yellow-flowering St. John's Wort “under the celestial sign Leo, and the dominion of the Sun” in his *English Physitian* (1652), while Robert John Thornton explained in his *Family Herbal* (1814) how “formerly it was supposed, and not without reason, that madmen were possessed of the devil, and this plant was found so successful in that disorder, that it had the title *Fuga daemonum*, as curing demoniacs” (cited in Rosenthal 1998: 202). Indeed, Rosenthal has shown how accounts of the powers of St. John's Wort to ward off spirits, chase away the devil, or overcome witchcraft were “rampant throughout Europe and the British Isles” during these centuries (1998: 203).

Such explanations have of course long since come to be dismissed as the superstitions and old wives' tales of ‘backward’ people. Instead, the search for evidence of effectiveness has been relocated to the laboratories of phytochemists and the clinics of clinical triallists. In recent decades, St. John's Wort (together with garlic (*allium sativum*) and ginkgo (*ginkgo biloba*)) has become one of the most clinically studied plants in the world.<sup>4</sup> The beginnings of this clinical interest can be traced to December 1984, when the German Federal Institute for Drugs and Medical Devices published the first of 360 medicinal herb monographs based on extensive bibliographic reviews. Among these was a monograph for the well-known German folk remedy plant *johanniskraut*. While there was little clinical data available at the time on St. John's Wort, an otherwise long bibliographic reference trail led so-called ‘Commission E’<sup>5</sup> (made up of 24 physicians, pharmacists, non-biomedical practitioners, pharmacologists, toxicologists and biostatisticians) to list “psychovegetative

disturbances, depressive moods, anxiety and/or nervous unrest” as possible treatment uses for it, as well as to note that “a mild antidepressant action of the herb and its preparations has been observed and reported by numerous physicians” (Heilpflanzen-Welt 2005).

By the mid 1990s, over 30 clinical trials (many of them funded by German herbal remedy producer, Lichtwer Pharma) had been carried out on extracts of *johanniskraut* which had at the same time become the single most prescribed antidepressant in Germany; making up as much as 25% of all prescriptions for antidepressants and pushing sales of Lichtwer Pharma’s St. John’s Wort extracts from \$23 million in 1994 to \$66 million in 1996 (Müller 2005: 2; Nash and Cray 1997). It was also around this time that Linde and colleagues (1996) would carry out the first meta-analysis of those clinical trials that had compared the efficacy of St. John’s Wort in the treatment of depression against either placebo or standard antidepressant treatments. Based on these inclusion criteria, Linde and colleagues analysed 23 out of 37 identified trials, concluding that “there is evidence that extracts of *hypericum* are more effective than placebo for the treatment of mild to moderately severe depressive disorders” (1996: 253). While use of St. John’s Wort had been growing steadily in Germany since 1984, it was this meta-analysis published in the *British Medical Journal*, together with some of the first pre-clinical study results on possible pharmacological antidepressant mechanisms of action published in 1997 and 1998 *Pharmacopsychiatry* supplements (Muller 1998; Muller and Kasper 1997), that would re-introduce St. John’s Wort to the English-speaking world. In 1997, a flurry of media stories suggested that St. John’s Wort might be “Nature’s Prozac”, citing the recently published clinical and pre-clinical research (see Andrews 1997; Hicks 1997; Johnson, et al. 1997; Nash and Cray 1997). And the effect of this media storm was tangible as St. John’s Wort virtually overnight transformed into one of the world’s first herbal ‘blockbusters’ throughout Europe and America, notwithstanding persistent reminders from herbal practitioners that *hypericum* has a much wider use and is most often used by herbalists as one element of a holistic ‘polypharmacy’ approach (Chevallier 1999: 12, 91).<sup>6</sup>

Today, two decades after Commission E’s monograph was first published, extracts of St. John’s Wort remain a popular treatment for especially mild depression, and there is no sign that clinical interest is abating.<sup>7</sup> At the same time, it cannot be said that a clear consensus has emerged as to the therapeutic merits of St. John’s Wort in the treatment of depression, a point further exacerbated by controversies surrounding the ‘specificity’ of

depression as a disease (see Healy 2004; Lakoff 2005). Debates have centred around five specific concerns: the possibility that St. John's Wort extract can negatively interact with other commonly used drugs; the drastically varied quality of extracts available to unknowing consumers; pharmacologic debates over which of the many active ingredients found in St. John's Wort extract (if any) are responsible for antidepressant activity (which has bearing on extract standardisation and quality control of products); disputes over whether St. John's Wort is only effective in cases of mild depression as opposed to moderate and major depression;<sup>8</sup> and finally, whether it is more effective than standard antidepressants. On the other hand, it is widely agreed that St. John's Wort has a much better safety profile than pharmaceutical antidepressants, although concerns about negative drug interactions and low quality extracts have certainly troubled this consensus to some extent.

Notwithstanding these various important clinical debates, what is clear from the past two decades' worth of clinical literature on St. John's Wort is the pivotal role that standardised diagnostic criteria, rating scales and clinical outcome measures have played in efforts to confirm or dismiss its claims to efficacy. Clinical efficacy is simply not feasible without this infrastructure. The many clinicians who over the past years have studied the antidepressant efficacy claims of St. John's Wort have had to build up psychological and physiological templates of healing (cf. Triantafillou and Moreira 2005) as a prerequisite for quantifying clinical observations into recordable and visualisable clinical outcomes. And, since depression has been the object of clinical study since the 1960s, a lot of this work had already been done for them. For example, Max Hamilton famously designed the first "rating scale for depression" in 1960 (now known as the Hamilton Depression Rating Scale or HAM-D) followed by Aaron Beck who developed his "inventory for measuring depression" in 1961 (now known as the Beck Depression Inventory or BDI), to mention the most famous ones.

While it is normal for trial protocols to include up to four or five different rating scales,<sup>9</sup> the HAM-D has emerged as the "gold standard" for the clinical assessment of depression in general (Bagby, et al. 2004). The HAM-D is a quantifiable depression scale that allows clinicians to rate the intensity of depression (absent, mild, moderate or severe) that a patient is suffering from at any given time. A clinical trial protocol will specify diagnostic criteria (for patient inclusion), length of observation period, rating scales to be used as well as the number of times a trial subject's level of depression is to be measured. The HAM-D

is a so-called “observer-rated” scale meaning that it is the clinician rather than the patient who carries out the rating – although it would perhaps be more accurate to describe it as an elicitor-rated scale, since scoring on the bulk of the 17 indicators that make up the HAM-D questionnaire relies on the trial participant “indicating”, “communicating”, “expressing” or “agreeing on” symptoms of depression such as “guilt feelings”, “lack of motivation”, “anxiety” or “irritability”, often after prompting by the clinician.<sup>10</sup> Even the somatic or physiological indicators on the HAM-D scale rely largely on the subjective accounts of the trial participant regarding, for example, “feelings of fatigue”, “abdominal symptom experiences”, “insomnia” or “gastro-intestinal complaints”. The few indicators that are observed without elicitation by the clinician are “non-verbal communications”, such as agitation and retardation as well as “estimations of weight loss”.

Once each of the 17 indicators has been evaluated by the clinician, a trial subject can be given a total score out of a maximum of 52. These total scores can then be monitored over time at periodic intervals, tabulated and eventually graphed. And while there is no universal agreement on what each score signifies, there is a tendency to grade scores in the low 10s as mild, the high 10s as mild to moderate, and the 20s as moderate to severe.<sup>11</sup> For a treatment to be considered efficacious in the treatment of depression, it has to demonstrate a reduction in HAM-D scores that is greater than reductions experienced by trial subjects receiving placebo to a statistically significant degree.

It is crucial to point out just how significant a role the infamous placebo effect has played in clinical trials investigating the efficacy of St. John’s Wort in the treatment of depression.<sup>12</sup> Put in simple terms, just as has been the case in standard antidepressant trials, patients who are given a placebo rather than St. John’s Wort get significantly better during the course of a clinical trial. For example, in Sommer and Harrer’s (1994) double-blind, placebo-controlled trial of the efficacy of St. John’s Wort in the treatment of mildly depressed patients, the mean reduction in HAM-D scores of the 42 patients receiving St. John’s Wort was -9 points compared to -5 points for those who received placebos (both from a baseline of 16) after 4 weeks of treatment. In Hansgen et al.’s (1994) multicentre, double-blind trial of the efficacy of St. John’s Wort in the treatment of major depression, the mean reduction in HAM-D scores of the 33 patients receiving St. John’s Wort was -13 points (from a baseline of 22), compared to -6 points (from a baseline of 20) for those who received placebos after 4 weeks of treatment. In Lecrubier et al.’s (2002) double-blind, placebo-controlled trial of the efficacy of St. John’s Wort in the treatment of major

depression, the mean reduction in HAM-D scores of the 186 patients who received St. John's Wort was -10 points compared to -8 points for those who received a placebo after 42 days (both from a baseline of 22). And finally, in Shelton et al.'s (2001) randomized controlled trial on the effectiveness of St. John's Wort in the treatment of major depression, the mean reduction in HAM-D scores was -7 points (from a baseline of 22) for those who received St. John's Wort, and -6 points (from a baseline of 23) for those who received a placebo after 8 weeks.

Now, while it would be far too simplistic to conclude something like 'at least 50%' of the efficacy of St. John's Wort is due to the placebo effect, it is nevertheless important to understand that when it comes to treating depression with St. John's Wort (or any other antidepressant for that matter) there is a lot more going on than bio-pharmacological activity.<sup>13</sup> Indeed, as was discussed earlier, randomised controlled trials have emerged out of a need to demonstrate an efficacy that is 'above and beyond placebo', and are rooted in a relatively recent positing of inevitable and measurable treatment effects (detectable "at the end organs") which are not specific to the medicine or treatment under trial. As the argument goes, even in the controlled settings of a clinical trial, "non-specific" effects resulting from an authoritative clinician-trial subject relationship, expectation on the part of the patient, the act of self-rating, or being interviewed periodically by a clinician are inevitable. That is to say, it is suggested that the clinical trial itself – in much the same way that a consultation with a GP or herbalist might – can generate symbolic efficacy in clinical trial participants which may then spill-over into measurable outcomes.

Moreover, it is also argued that further to taking part in a clinical trial, a patient may also be actively reading up on what has become a burgeoning St. John's Wort self-help literature (e.g. Knishinsky 1998; Rosenthal 1998; Zuess 1997) in which lifestyle changes and an active approach to getting better are encouraged. These books provide readers with cognitive meaning frameworks as a concrete coping technique in itself in chapters with titles such as "Understanding Depression", "Hypericum – Herbal Anti-Depressant" and "What is Depression?". They are written for "people of all ages who are trying to cope with short or long-term problems" and encourage them to place their suffering within a holistic context of "medical, dietary and emotional history and lifestyle" (Great Britain. Mind. 2004: 9). Such activity by trial subjects, it is argued, may also contribute to any efficacy attributed to St. John's Wort through clinical trials, although 'non-specifically' so. And finally, it is also pointed out that it cannot be excluded that the "natural history" or "self-limiting nature" of a

condition such as depression in some patients mean that they 'would have gotten better anyway' with or without treatment (see Kaptchuk 1998b; Kirsch and Sapirstein 1998).

It is in these different ways that bio-efficacy, placebo efficacy and symbolic efficacy circulate in efforts to clinically test St. John's Wort in the treatment of depression. In the particular case of depression, a further confounding factor arises from the fact that even if depression has in recent years acquired some kind of a (albeit highly contested) neurochemical-pathway-facilitated physiological base (Healy 2004; Rose 2000), assessments of a drug treatment's efficacy are most often reliant on a patient's subjective recounting of any self-perceived therapeutic change, although brain-imaging has also recently been employed in efforts to make depression visualisable and measurable (Wilson 2006). That is to say, it is not serotonin, dopamine, noradrenaline or glutamate levels that are measured over time to demonstrate efficacy in humans, rather it is a patient's symptomatic *experiences* (as reported by him or herself) of helplessness, guilt and insufficiency that are recorded, quantified and monitored over time. So there is an inbuilt tension (not unlike that found in debates over the placebo effect) in clinical trials between bloodless, gutless theories of cognition on the one hand, and neurological, 'end organ' theories on the other (see also Lakoff 2005). This tension is particularly relevant in cases of chronic disease (such as depression or back pain) where improving quality of life is much more the therapeutic objective than increasing longevity, even if this latter objective can also play a significant part in treatment considerations. With acutely life-threatening conditions (e.g. many forms of cancer) "survival is the gold standard by which [treatments] are judged" (Edwards cited in BBC News Online 2006).<sup>14</sup>

Are the "observer-rated" feelings of depression trial subjects symptomatic manifestations of essentially bio-physiological disturbances as suggested by 'pre-clinical' pharmacological studies of antidepressant mechanisms of action, or are they symptomatic utterances resulting from essentially non-physiological, affective disorders? Whatever the case, it is clear that assessments of efficacy in depression treatment trials with human subjects today rely primarily on the 'objective' quantification of a range of 'subjective' indicators.

## **Conclusion**

In this paper, it has been my intention to demonstrate the many and often overlapping assumptions that have arisen over the past century or so out of persistent and stubborn attendance to the central therapeutic question of "does it work?", using herbal medicine as

an example. What I have argued is that concepts of efficacy are dependent on the objects to which they refer/describe. By distinguishing between the bloodless, gutless symbolic efficacy that medical anthropologists – who take human subjectivity as their primary object – have meticulously sought to describe in their ethnographic accounts of healing rituals on the one hand, and the physiological bio-efficacy that clinicians and pharmacologists – who take human somatic biology as their primary object – have equally painstakingly sought to document through *in vivo*, *in vitro* and clinical experimentation on the other, I have shown how a decriminalised placebo effect has emerged as a possible intermediate link between the two. For, the placebo effect relies at one and the same time on both symbolic (hope, expectation, cognitive homeostasis, familiarity, etc.) and physiological (end organ normalisation) concepts of efficacy. The intermediate pathways that link the symbolic and the somatic facilitate both cure and pathology, with stress, anxiety or fear potentially leading to physiologically manifest psychosomatic disorders, and their opposites in hope, expectation and ‘peace of mind’ potentially generating physiologically therapeutic (placebo) effects. They also allow for the reverse, as somatic manifestations of disease are seen to generate anxiety and fear while somatic improvements can generate hope and expectation. The spill-over placebo effect then hangs comfortably somewhere in between the somatic and the symbolic – its effects biological (measurable at the end organs by pharmacologists), its preconditions symbolic (localised in human subjectivity by anthropologists).

And so it is somewhere within this complex of inter-crossing pathways which can be symbolic, physiological or somehow intermediary, that assurances of efficacy are sought after by anthropologists, clinicians, herbalists and pharmacologists alike. What should be clear from the experiences with St. John’s Wort that I have recounted here, is that even after a battery of observational studies, clinical trials and meta-analyses, answers to the question of whether a therapy or medicine ‘works’ are far from simple and clear-cut, especially when dealing with chronic conditions where improvement is measured ‘subjectively’.<sup>15</sup> If herbalists have been keen to keep the different forms of efficacy together in a ‘holistic’ approach to healing in their practice, the randomised controlled trial in its current form has, in contrast, sought to separate out what is seen as the “specific” efficacy of a treatment or remedy (an efficacy that is directly dependent on that treatment or remedy and nothing else, e.g. the “independent activity of the herbs themselves”), as opposed to “non-specific” efficacy which is often seen as arising in good part from the symbolic efficacy that participation in a clinical trial will invariably generate. Yet, the role of

blinding and the use of placebo or 'sham' treatments as comparisons is not so much for the immediate purpose of exposing a fraud, but rather more for determining whether or not a treatment or remedy has an efficacy that is "above and beyond" the efficacy that almost any healing intervention will generate.

Nevertheless, following Wilson (2006), we might say that herbal medicine 'works' not in spite of but rather in active collaboration with the placebo; 'true drug effect', 'placebo effect' and 'symbolic effect' are in some ways inseparable. Even if randomised controlled trials explicitly seek to parcel out and quantify these different forms of response for the purposes of auditing its (non-)efficacy, they are never eliminated, hence the need for a standard of 'above and beyond placebo'. Indeed each are seen to contribute to a drug or treatment's 'total effect' and thereby to a patient's self-reported *experience* of 'getting better', however non-specific placebo and symbolic effects are considered.

## Notes

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<sup>1</sup> Indeed, Evans-Pritchard made a point of underlining that it was his Zande informants themselves who had pointed out the 'trickery' of many of their witchdoctors to him, but also that there were "a few entirely reliable practitioners" (1937: 185).

<sup>2</sup> Both Harrington (1997) and Lakoff (2007) have reminded us of the importance of medical anthropology in the history of the placebo effect, but this has not been the focus of their work. Harrington does not go further back than the 1980s and Lakoff makes reference to Levi-Strauss.

<sup>3</sup> See Harrington (1997) for a collection of essays that make their various cases on these points.

<sup>4</sup> A simple PubMed clinical trial-related search gave 109 articles for 'allium', 195 for 'ginkgo' and 116 for 'hypericum'. See also American Botanical Council (1999).

<sup>5</sup> A commission that had been established by the German Federal Institute for Drugs and Medical Devices following the passing of Germany's Second Medicines Act in 1976 to review the safety and efficacy of 'phytomedicines' available on the German market.

<sup>6</sup> The sales figures for the US market were spectacular in the final years of the 1990s, with some estimates suggesting that sales jumped 190% from \$48 million in 1997 to \$140 million in 1998. In Europe, sales figures for 1998 have been estimated at \$6 billion. And in Britain, an estimated 2 million people were using St. John's Wort in 2000. Ironically enough, increased attention to St. John's Wort also resulted in a number of media reports suggesting that St. John's Wort negatively interacted with a number of commonly used conventional drugs, which resulted in an almost immediate sales decline in Europe and America (Blumenthal 1999; Kelly 2001; Lawson 2000).

<sup>7</sup> An updated meta-analysis by Linde et al. from 2005 identified a total of 68 randomised or possibly randomised trials with St. John's Wort (Linde, et al. 2005).

<sup>8</sup> See, for example, Davidson et al. (2002) for a review of a large, double blind randomised controlled trial which did not find St. John's Wort more effective than placebo in the treatment of major depression.

<sup>9</sup> At least 19 different scales were used in those trials included in the meta-analysis by Linde et al. (2006) including the HAM-D, BDI, Patient's Global Assessment Scale, Adjective Mood Scale and Global Assessment of Functioning.

<sup>10</sup> Further to such "observer-rated" scales as the HAM-D or the Clinical Global Impression Index, a number of self-rating scales for depression have also been developed which typically present trial participants with a number of statements, such as "I feel down-hearted and blue", "I have crying spells" or "I still enjoy sex", to which they have to indicate a little, some, good part or most of the time. These answers are then tabulated into total scores and can be monitored over time.

<sup>11</sup> These categorisations, it turns out, have come to be crucial in debates over the efficacy of St. John's Wort extracts, as clinical trials that have suggested an efficacy that is not superior to placebo in trials targeting patients suffering from moderate to severe depression (especially Davidson, et al. 2002) have not silenced proponents of St. John's Wort as a "mild antidepressant".

<sup>12</sup> For debates about this in the context of SSRIs see Kirsch et al. (2002), Healy (2004) and Wilson (2006).

<sup>13</sup> In a meta-analysis of 19 double-blind, placebo-controlled clinical trials of standard anti-depressants, Kirsch and Sapirstein (1998) controversially argued that "inactive placebos produced improvement that was 75% of the effect of the active drug", and consequently that "approximately one quarter of the drug response is due to the administration of an active medication, one half is a placebo effect, and the remaining quarter is due to other nonspecific factors". While their article has been subject to considerable methodological critique, their point concerning the significant role that "placebo response" plays in overall treatment is relevant nonetheless (see also Kirsch, et al. 2002).

<sup>14</sup> This is a crucial point in the context of complementary and alternative medicines such as herbal medicine with some herbalists themselves arguing that "modern patients with a life-threatening pathology are in much better hands with a modern physician than they could have been with any from earlier generations" or that "the value of modern medicine in coping with acute or life-threatening disease is plain to see" (McIntyre 1988: 30; Mills 1993: 20).

<sup>15</sup> This latter point is just as relevant when it comes to standard antidepressants (Kirsch 2003; Kirsch, et al. 2002). Archie Cochrane, considered by many to be the 'father' of evidence-based medicine, was acutely aware of this challenge: "There are other limitations on the general applicability of the randomised controlled trial. One important area is the group of diseases where improvement or deterioration has to be measured subjectively" (Cochrane 1972: 24).

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